Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: Phosphoric Acid, ACS

Manufacturer/Supplier Article number: PH1015

Recommended uses of the product and restrictions on use: Laboratory chemicals

Manufacturer Details:

AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
1-717-632-1291

Emergency telephone number:

ChemTel: (24-hour)
+1(800)255-3924
+1(813)248-0585 (International)

SECTION 2: Hazards identification

Classification of the substance or mixture:

Corrosive
Skin corrosion, category 1B
Corrosive to metals, category 1

Corrosive to Metals 1.
Skin Corrosion 1B.

Signal word: Danger

Hazard statements:

May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statements:

If medical advice is needed have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep only in original container.
Do not eat, drink or smoke when using this product.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see … on this label).
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Store locked up.
Store in a corrosive resistant container with a resistant inner liner.
Dispose of contents/container.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

Other Non-GHS Classification: None

SECTION 3: Composition/information on ingredients

Ingredients:

Ingredients:		
CAS 7664-38-2	Phosphoric Acid	>85 %
CAS 7732-18-5	Deionized Water	<15 %
		Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Seek medical attention immediately. Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

After skin contact:

Remove contaminated clothing and wash before reuse or discard. Rinse skin with for 30 minutes with deluge of water or under a shower. Seek immediate medical assistance. Wash affected area with soap and water. Wipe off contact areas with a dry cloth if possible, before flushing with water for at least 15 minutes. Seek medical attention immediately. Dispose of cloth by soaking in water. Neutralize the soaking solution with sodium hydroxide solution.

After eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 30 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention immediately. Protect unexposed eye.

After swallowing:

Seek medical attention immediately. Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath. May cause severe burns and ulcerations. May cause severe burn and irreversible eye injury. May cause gastrointestinal tract burns, corrosion and permanent tissue damage of the digestive tract and esophagus.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician. Wipe off contact areas with a dry cloth if possible, before flushing with water. Dispose of cloth by soaking in water. Neutralize the soaking solution with sodium hydroxide solution.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing agents: None

Special hazards arising from the substance or mixture:

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

Hydrogen gas is released in contact with most metals. Combustion products may include carbon oxides or other toxic vapors. Combustion products may include phosphine, oxides of phosphorus, and hydrogen gas.

Advice for firefighters:

Protective equipment:

Wear protective equipment Use respiratory protective device against the effects of fumes/dust/aerosol/vapor. Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Avoid contact with eyes, skin, and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

Absorb spillage to prevent material damage due to corrosiveness to metal. If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect liquids using inert absorbent material.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Wash hands after handling. Do not mix with bases. Use in a chemical fume hood. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Prevent contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities:

Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Do not store near combustible materials. Do not mix with bases. Do not store under direct sun light. Do not pile up the containers. Do not store at temperatures close to freezing point. Container materials should be made of stainless steel 316-L, high-density polyethylene, or glass. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs.

SECTION 8: Exposure controls/personal protection

Control parameters:

7664-38-2, Phosphoric Acid., ACGIH TLV: 1 mg/m³ as TWA.
7664-38-2, Phosphoric Acid., ACGIH TLV 3 mg/m³ as STEL.
7664-38-2, Phosphoric Acid., OSHA PEL: TWA 1 mg/m3.
7664-38-2, Phosphoric Acid., NIOSH REL: TWA 1 mg/m3.
7664-38-2, Phosphoric Acid., NIOSH REL ST: 3 mg/m3.
7664-38-2, Phosphoric Acid., NIOSH IDLH: 1000 mg/m3.
7664-38-2, Phosphoric Acid., (See 29 CFR 1910 1000 Appendix G).

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

Appropriate engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use in chemical fume hood.
Respiratory protection:	Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
Protection of skin:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, colorless liquid	**Explosion limit lower**: **Explosion limit upper**:	Not determined Not determined
Odor:	Odorless	**Vapor pressure at 20°C**:	Not determined
Odor threshold:	Not determined	**Vapor density**:	3.4
pH-value:	Not determined	**Relative density**:	1.680
Melting/Freezing point:	21°C	**Solubilities**:	Soluble in water.
Boiling point/Boiling range:	158°C	**Partition coefficient (n-octanol/water)**:	Not determined
Flash point (closed cup):	Not determined	**Auto/Self-ignition temperature**:	Not determined
Evaporation rate:	Not determined	**Decomposition temperature**:	300°C
Flammability (solid, gaseous):	Not applicable	**Viscosity**:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		
Additional property:	Hygroscopic.		
Specific Gravity	1.680		
Molecular Weight:	98.00 g/mol		

SECTION 10: Stability and reactivity

Reactivity: None

Chemical stability:

This hygroscopic substance pulls moisture from air. No decomposition if used and stored according to specifications.

Possible hazardous reactions: None

Conditions to avoid:

Metals. Exposure to moist air or water. Incompatible materials. Excess heat. Store away from oxidizing agents,

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

strong acids or bases.

Incompatible materials:

Metals. Bases. Alcohols. Amines. Halogenated agents. Organic peroxides. Amides. Azo. Diazo. Hydrazines. Chlorates. Carbamates. Esters. Fluorides. Phenols. Cresols. Organophosphates. Phosphothioates. Epoxides. Combustible and flammable materials. Explosives. Alkalines. Nitromethane. Sodium tetrahydroborate. Mercaptans. Aldehydes. Ketones. Glycols. Cyanides. Sulfides. Caustics. Strong acids. Carbides. Strong bases. Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents.

Hazardous decomposition products:

Phosphine. Oxides of phosphorus. Hydrogen gas is released in contact with most metals.

SECTION 11: Toxicological information

Acute Toxicity: No additional information.
Chronic Toxicity: No additional information.
Skin corrosion/irritation:

Classified as a skin corrosion. Section 2.

May cause severe burns and ulcerations.

Serious eye damage/irritation:

Eye Damage Section 2 (eye damage is presumed with Skin 1 classification).

May cause severe burn and irreversible eye damage.

Respiratory or skin sensitization: No additional information.
Carcinogenicity:

NTP: Not listed.

Germ cell mutagenicity: No additional information.
Reproductive Toxicity: No additional information.
STOT-single and repeated exposure: No additional information.
Additional toxicological information:

No additional information.

SECTION 12: Ecological information

Ecotoxicity:

Do not release to water., May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen in the marine environment; at extremely high concentrations and/or quantities, this may be hazardous to fish or other marine organisms.
LpH50 (median lethal pH) (96h) phosphoric acid (bluegill sunfish), 3-3.25.
Adult brook trout survived 5 months exposure to pH levels of 5.0 and above. Total egg production was not affected, but viability was significantly less at pH 5.0. Hatchability was significantly less at levels below pH 6.5. Growth and survival of alevins was reduced at the lower pH levels. , The data indicate that continuous exposure to pH levels below 6.5 result in significant reductions in egg hatchability and growth.
Algae: NOEC (EC50 >100 mg/l, the upper limit of toxic range) D. subspicatus , 100 mg/l.

Persistence and degradability:

Readily degradable in the environment.

Bioaccumulative potential:

The phosphorus element is an essential nutrient for flora and fauna.

Mobility in soil: No additional information.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14: Transport information

US DOT

UN Number:
ADR, ADN, DOT, IMDG, IATA 1805

Limited Quantity Exception: None

Bulk:
RQ (if applicable): None
Proper shipping Name: Phosphoric Acid Solution.
Hazard Class: 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

Non Bulk:
RQ (if applicable): None
Proper shipping Name: Phosphoric Acid Solution.
Hazard Class: 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) :

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7664-38-2 Phosphoric acid 5000.

Proposition 65 (California):

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.07.2014

Phosphoric Acid, ACS

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL) :

All ingredients are listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 3-0-0
HMIS: 0-0-0
GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG	International Maritime Code for Dangerous Goods.
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).